



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/519,433

06/23/2005

Karen Williams

PA0247

7534

22840

7590

07/24/2008

GE HEALTHCARE BIO-SCIENCES CORP.  
PATENT DEPARTMENT  
800 CENTENNIAL AVENUE  
PISCATAWAY, NJ 08855

EXAMINER

POWERS, FIONA

ART UNIT

PAPER NUMBER

1626

MAIL DATE

DELIVERY MODE

07/24/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/519,433	<b>Applicant(s)</b> WILLIAMS ET AL.	
	<b>Examiner</b> Fiona T. Powers	<b>Art Unit</b> 1626	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 April 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 8-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6 and 19 is/are rejected.
- 7) ☒ Claim(s) 4, 5 and 7 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/22/04</u> .  | 6) <input type="checkbox"/> Other: _____                          |

Receipt is acknowledged of the information disclosure statement filed May 31, 2007 and the amendment filed April 28, 2008 which have been entered in the file.

Applicant's election without traverse of Group I, claims 1 to 7 and 19 in the reply filed on April 28, 2008 is acknowledged.

Claims 8 to 18 stand withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on April 28, 2008.

The disclosure is objected to because of the following informalities: the specification does not contain a section entitled "BRIEF DESCRIPTION OF THE DRAWINGS". Page 19 should be amended to include this heading.

Appropriate correction is required.

Claim 7 is objected to because of the following informalities: claim 7 contains a period within the claim. Note the period after Set 4 on page 7, line 3. Appropriate correction is required.

Art Unit: 1626

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 to 3, 6 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Randall et al. (US 6224644), cited.

*Determination of the scope and content of the prior art (MPEP §2141.01)*

The reference discloses cyanine dyes which are useful for labeling a variety of target molecules. Note the abstract. The cyanine dyes of Examples 26 and 27 are structurally similar to the dyes of instant formula (I) wherein n in one dye is 1 and in the other dye is 2;  $R^1$  or  $R^2$  is  $-(CH_2)_p-CONH-(CH_2)_q-Y$  where p is 5 and q is 3; the other of  $R^1$  and  $R^2$  is  $-(CH_2)_r-H$  where r is 1 or 2; and  $R^3$  is W which is a sulphonic acid group. The dyes of Examples 26 and 27 are in the potassium salt form. The reference also discloses a kit comprising the cyanine dyes. Note column 8, line 64 to column 9, line 8.

*Ascertainment of the difference between the prior art and the claims (MPEP §2141.02)*

The dyes of the reference differ from the claimed dyes in that the group that corresponds to Y of the present invention is a protected hydroxy group instead of a hydroxy group.

Additionally, in one of the dyes the group that corresponds to  $R^1$  or  $R^2$  that is  $-(CH_2)_r-H$ ,  $r$  is 2 instead of 1 or 3. Furthermore, the reference does not disclose the use of the dyes of Examples 26 and 27 as a matched set of fluorescent dyes.

*Finding of prima facie obviousness---rational and motivation (MPEP §2142-2413)*

The reference discloses that the protected groups can be deprotected to yield free hydroxyl groups which can be covalently attached to a target molecule. See column 2, lines 15 to 30 and column 9, lines 1 to 8. The reference also discloses that the group that corresponds to  $R^1$  or  $R^2$  that is  $-(CH_2)_r-H$  which is  $R_{11}$  or  $R_{12}$  in the reference dyes, can be  $C_1-C_{30}$  alkyl. Note formula (2) in column 2 and the definition of  $R_{11}$  and  $R_{12}$  in column 2, lines 44 and 45. Thus, it would have been obvious to substitute a methyl group for the ethyl group in one of the dyes of Examples 26 and 27. In addition, it has been held that it is obvious to use together compounds that are useful for the same purpose. See *In re Kerkhoven*, 205 USPQ 1069. Therefore, it would have been obvious to one of ordinary skill in the art to use the deprotected dye of Example 26 together with the deprotected dye of Example 27 but substituting a methyl group for the ethyl group in one of the dyes in order to obtain a matched set of fluorescent dyes. One of ordinary skill in the art would have expected the resulting set of

Art Unit: 1626

fluorescent dyes to also be useful for labeling a variety of target molecules. The claimed set of fluorescent dyes and kit comprising the matched set of fluorescent dyes would have been rendered obvious by the dyes of the reference in the absence of any unobvious property.

Claims 1 to 3, 6 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura (US 6825195), cited.

*Determination of the scope and content of the prior art (MPEP §2141.01)*

The reference discloses fluorescent group-containing carbodiimide cyanine dyes which can be used to label nucleic acids or proteins. The cyanine dyes of the reference are structurally similar to the dyes of instant formula (I) wherein  $n$  is 1, 2 or 3;  $R^1$  or  $R^2$  is  $-(CH_2)_p-CONH-(CH_2)_q-Y$  where  $p$  is 5 and  $q$  is 3; the other of  $R^1$  and  $R^2$  is  $-(CH_2)_r-H$  where  $r$  is 1 or 2; and  $R^3$  is  $W$  which is a sulphonic acid group. Note the dye at the bottom of columns 9 and 10 and the three dyes shown in columns 11 and 12. Also note column 17, line 63 to column 19, line 10.

*Ascertainment of the difference between the prior art and the claims (MPEP §2141.02)*

The dyes of the reference differ from the claimed dyes in that in one of the dyes the group that corresponds to  $R^1$  or  $R^2$  that is  $-(CH_2)_r-H$ ,  $r$  is 2 instead of 1 or 3. Furthermore, the

reference does not disclose the use of the dyes as a matched set of fluorescent dyes.

*Finding of prima facie obviousness---rational and motivation (MPEP §2142-2413)*

It would have been obvious to substitute a methyl or propyl group for the ethyl group on the indolium nitrogen to obtain homologous cyanine dyes that would be expected to have similar properties. In addition, it has been held that it is obvious to use together compounds that are useful for the same purpose. See *In re Kerkhoven*, 205 USPQ 1069. The claimed set of fluorescent dyes and kit comprising the matched set of fluorescent dyes would have been rendered obvious by the dyes of the reference in the absence of any unobvious property.

Claims 4 and 5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The references made of record and not relied upon show the state of the art.

No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fiona T. Powers whose telephone number is 571-272-0702. The examiner can normally be reached on Monday - Friday 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph K. McKane can be reached on 571-272-0699. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Fiona T. Powers/  
Primary Examiner, Art Unit 1626

Fiona T. Powers  
Primary Examiner  
Art Unit 1626

ftp  
July 16, 2008